

1. (Currently Amended) Method for etching phosphate ore, comprising:

- a digestion of phosphate ore by an aqueous solution of hydrochloric acid, which results in formation of an etching liquor consisting of an aqueous phase, in which calcium phosphate is in solution, and an insoluble solid phase which contains impurities,
- a first separation between the insoluble solid phase and the aqueous phase of the etching liquor,
- a preliminary neutralization of an aqueous medium containing calcium phosphate in solution to a first pH which is lower than the pH at which a significant part of this calcium phosphate in solution precipitates in the form of calcium mono-hydrogen phosphate (DCP), with precipitation of impurities,
- an isolation of the precipitated impurities from the pre-neutralized aqueous medium,
- a subsequent neutralization of said pre-neutralized aqueous medium to a second pH which is greater than the aforementioned first pH, with precipitation of DCP, and

- a second separation between the subsequently neutralized aqueous medium, which is an aqueous solution of calcium chloride, and the precipitated DCP,

~~characterized in that~~ wherein it comprises a digestion, in one step and in co-current, of phosphate ore having a  $P_2O_5$ - $P_2O_5$  content of more than 20% by weight by an aqueous solution of hydrochloric acid having an HCl concentration of less than 10% by weight, and in that, in order to reach said first pH, said preliminary neutralization is carried out before said first separation in said etching liquor as aqueous medium containing calcium phosphate in solution, the isolation of the precipitated impurities taking place during said first separation of said insoluble solid phase, and said aqueous medium which has been pre-neutralized and subjected to said subsequent neutralization being formed of the separated aqueous phase resulting from the first separation.

2. (Currently Amended) Method according to Claim 1, ~~characterized in that~~ wherein said first pH of the etching liquor is adjusted by said preliminary neutralization to a value between 0.8 and 4, ~~preferably between 1.3 and 1.5.~~

3. (Currently Amended) Method according to ~~either of Claims 1 and 2,~~ Claim 2, wherein said second pH of said separated aqueous phase resulting from the first separation is adjusted